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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,659	08/16/2006	Horst Binder	294826US0PCT	9973

22850 7590 09/08/2010  
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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LEONARD, MICHAEL L

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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09/08/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/589,659	<b>Applicant(s)</b> BINDER ET AL.	
	<b>Examiner</b> MICHAEL LEONARD	<b>Art Unit</b> 1796	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-6 and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,954,684 to Farrissey et al. in view of U.S Patent Pub. No. 2004/0186194 to Joern et al. for the reasons set forth in the last Office action.

Claims 1-10, and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 7,001,973 to Kohlstruck et al. (US Patent Pub No. 2003/0187178) in view of U.S Patent Pub. No. 2004/0186194 to Joern et al. for the reasons set forth in the last Office action.

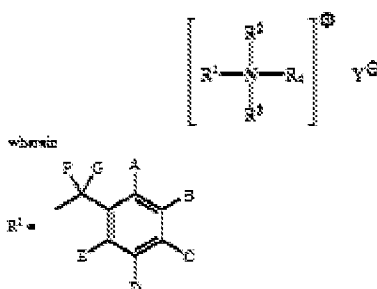
Claims 14-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 7,001,973 to Kohlstruck et al. (US Patent Pub No. 2003/0187178) in view of U.S Patent Pub. No. 2004/0186194 to Joern et al. and further in view of U.S. Patent No. 6,093,817 to Kohlstruck et al.

As to claim 14-16, and 18, Kohlstruck ('973) discloses a process for preparing low-viscosity polyisocyanate and polyisocyanate of reduced color containing isocyanurate groups, which comprises partially trimerizing aliphatic and/or cycloaliphatic

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diisocyanates in the presence of 0.02 to 2% by weight of at least one trimerization catalyst of the following formula:

formula (I):



Wherein y is R6COO- (Column 3-4) and A, B, C, D, and E simultaneously or independently of one another are hydrogen, chloro, C1-C4-alkyl, etc. (Column 3, lines 57-65). Kohlstruck further discloses benzylammonium carboxylates of hexanoic acid, acetic acid, 2-ethylhexanoic acid, etc. (Column 7, lines 35-38).

Kohlstruck fails to disclose alpha-hydroxy carboxylic acids.

Joern discloses the use of carboxylic acids in combination with a trimerisation catalyst (tertiary amines) that leads to improved processing and higher isocyanurate conversion, wherein the carboxylic acids are selected from a list that includes hydroxy benzoic acid, citric acid, glycolic acid, lactic acid, as well as acetic acid (0009 and 0012).

The examiner is taking the position that it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art. In re Kerkhoven, 626 F.2d 846, 850,205 USPQ 1069, 1072 (CCPA 1980). The fact

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that Joern discloses the same carboxylic acids as the primary reference to Kohlstruch as well as carboxylic acids containing alpha-hydroxy groups would lead a person of ordinary skill in the art to substitute one carboxylic acid for the other to expectedly arrive at the claimed invention, because the carboxylic acids were implemented in both cases to increase isocyanurate conversion as evidenced by Kohlstruch (Column 3, lines 27-35) and Joern (0009 and 0012). The examiner is concluding from the prior art that the use of carboxylic acids for isocyanurate conversion is known and that from the disclosure of Joern the carboxylic acid can be chosen from alpha-hydroxy, beta-hydroxy or no-hydroxy and the conversion from isocyanate to isocyanurate will still proceed.

If it is the applicants' position that this would not be the case: (1) evidence would need to be provided to support the applicants' position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients.

Kohlstruck discloses the use of HDI and IPDI polyisocyanates, but fails to disclose low-halogen containing polyisocyanates.

However, Kohlstruck ('817) discloses the use of low-halogen containing HDI and IPDI in the process for preparing reduced-color isocyanurate functional polyisocyanates (Column 2, lines 35-37). Kohlstruck further discloses the problems associated with high chlorine containing polyisocyanates (Column 1, lines 15-67).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to replace the high-halogen containing HDI and IPDI of Kohlstruck ('973) with the low-halogen containing HDI and IPDI of Kohlstruck ('817) because the lower

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halogen containing polyisocyanates have lower cost-intensive safety measures, lower corrosiveness of the reaction mixture, lower lability of the solvents that are commonly employed, and the formation of chlorine-containing byproducts, which are codeterminates of the physical properties of the product such as the color, viscosity, and vapor pressure, and of the chemical properties such as reactivity and storage life of the polyisocyanates as evidenced by Kohlstruck ('817) (Column 2, lines 1-15).

As to claims 17 and 19, Joern discloses the use of carboxylic acids in combination with a trimerisation catalyst that leads to improved processing and higher isocyanurate conversion, wherein the carboxylic acids are selected from a list that includes hydroxy benzoic acid, citric acid, glycolic acid, lactic acid, etc. (0009 and 0012).

As to claim 20-21, Kohlstruck discloses deactivating the catalyst with bis(2-ethylhexyl) phosphate (Column 2, line 17) and dibutyl phosphate (Column 4, line 27).

As to claim 22-23 Kohlstruck ('817) discloses less than 80 ppm of chlorine is present in the halogen free polyisocyanate selected from IPDI and HDI (Column 2, lines 35-37, Column 3, line 56)

As to claims 24-25, Kohlstruck ('978) discloses that the polyisocyanurates are valuable for one and two component polyurethane systems for weather and light-stable polyurethane coatings (Column 5, lines 47-52).

### ***Response to Arguments***

Applicant's arguments filed have been fully considered but they are not persuasive.

Applicant's arguments filed 07/16/2010 have been fully considered but they are not persuasive. Applicants argue that the claimed invention has not been rendered obvious by Farriseey in view of Joern for 1 reason.

1) The reason being the alpha-hydroxy carboxylates are would not be considered as functional equivalents to the non-alpha-hydroxy carboxylates disclosed by Farriseey even though the secondary reference to Joern discloses such a functional equivalency by listing alpha-hydroxy carboxylates non-alpha-hydroxy carboxylates in a list of 5 (3 being alpha-hydroxy and 2 being non-alpha hydroxy containing) (0012). The applicants' pointed to the specific examples cited in the specification to show the differences.

In response to issue 1), the applicants' examples show comparative data from non-alpha hydroxy carboxylates that were not listed in the secondary reference to Joern in a preferred embodiment. Thus, the applicants' failed to show unobviousness between the closest combination of references and the instant invention. For instance, the comparative data only compared data between one non-alpha hydroxy carboxylates (2-ethylhexanoate, See Comp. Ex. 1-3) and failed to show comparison data between the 3 preferred non-alpha hydroxy carboxylates of Joern (0012) and the alpha-hydroxy carboxylates of the instant invention. Thus, the applicants' did not compare the closest combination of prior art references to the claimed invention and therefore the unexpected properties are irrelevant. Furthermore, the improvement in the color number as seen from the data presented in the instant specification does not establish a trend for all non-alpha hydroxy carboxylates because the data only proved that one (2-

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ethylhexanoate) would not produce the desired color value. As a result, from reading the disclosure of Joern that discloses a functional equivalency by listing alpha-hydroxy carboxylates non-alpha-hydroxy carboxylates in a list of 5 (3 being alpha-hydroxy and 2 being non-alpha hydroxy containing) (0012), a person of ordinary skill in the art could reasonably substitute from the list of 5 each carboxylate to arrive at the presently claimed invention, including low color containing polyisocyanurates.

Also, the examples demonstrated are not commensurate in scope with the claims as written. For instance, the claims as written suggest that any type of (cyclo)aliphatic polyisocyanate can be used in the process of forming low-color number polyisocyanurates. However, the examples only disclose the use of HDI and IPDI.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of



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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL LEONARD whose telephone number is (571)270-7450. The examiner can normally be reached on Mon-Fri 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Milton I. Cano/  
Supervisory Patent Examiner, Art Unit 1796

/MICHAEL LEONARD/  
Examiner, Art Unit 1796